

BEST MANAGEMENT PRACTICES

Chapter 27:
**Using Swathing to Accelerate Wheat
Drying and Reduce Yield Losses**



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Swathing is a management practice that historically has been conducted to reduce dockage due to weed seed or green kernel contamination. Even though the annual requirement for swathing has been reduced by improved weed control strategies, it can be used to accelerate wheat drying and minimize losses due to sawfly. Videos for swathing wheat are available at <http://www.youtube.com/watch?v=GIbqW6Xhcmw>.

Swathing wheat

To reduce yield losses due to insects, weeds, wind, and cool conditions, producers may consider windrowing, or swathing, their wheat. Windrowing is used to accelerate the drying processes under cool conditions. During most South Dakota summers (warm weather), windrowed wheat offers few advantages relative to straight combining, and in many situations, it can even increase the risk of crop loss.

Wheat can be windrowed once it reaches physiological maturity (33 to 43% moisture). At this moisture percentage, the kernel can still be crushed between the thumb and forefinger when squeezed. Because physiological maturity has been reached, windrowing should not influence test weights or protein contents. In order to swath grain, a self-propelled or tractor-assisted swather cuts and windrows the wheat and straw. The grain is then combined at a later date when the grain moisture reaches an acceptable level.

Why swath wheat

If the field contains a substantial variability, it may be desirable to accelerate the drying process. Windrowing can be used to accelerate drying in the late-maturing areas and reduce losses in early maturing areas. Windrowing will not accelerate the progression of green kernels to ripe kernels. Green immature kernels will remain in the sample after swathing.

Swathing can be used to reduce the weed seeds in the stored grain. Weed seeds can cause storage problems and reduce the quality of the product. Prior to the use of pre-harvest herbicides (Chapter 25), windrowing was the most common method of weed control. It should be pointed out that the use of preharvest herbicides can negatively impact the viability of grain for seed. On the other hand, a preharvest herbicide application can kill weeds, which will reduce the weed seed bank. Additional information about the use of herbicides is available at extension.sdstate.edu.

Swathing has been reported to reduce yield losses due to sawfly. Wheat stem sawfly larvae feed inside the stem, which can reduce yields. As the plant senesces, the sawfly moves into the base of the plant,

where it cuts the stem. Early swathing can help reduce harvest losses in the current crop. Information for identifying sawfly is available at <http://www.ag.ndsu.edu/pubs/plantsci/pests/e1479.pdf>.

Swathing can be used to reduce lodging, which can occur when the larva cuts the stem. Because sawfly infestations are frequently heaviest on the field border, yield reductions can be reduced by only swathing these areas.

Additional information and references

Knodel, J., T. Shanower, and P. Beauzay. 2010. Integrated pest management of wheat stem sawfly in North Dakota. E-1479. NDSU Extension Service, North Dakota State University, Fargo, ND. Available at <http://www.ag.ndsu.edu/pubs/plantsci/pests/e1479.pdf>

Winter cereal production, University of Saskatchewan. Available at http://www.usask.ca/agriculture/plantsci/winter_cereals/index.php

Acknowledgements

Support for this chapter was provided by South Dakota State University, South Dakota Corn Utilization Council, USDA-NIFA, South Dakota 2010 research program, South Dakota Drought Tolerance Center, South Dakota Wheat Commission, and South Dakota Soybean Board.

Carlson, C.G. 2012. Using swathing to accelerate wheat drying and reduce yield losses. In Clay, D.E., C.G. Carlson, and K. Dalsted (eds). iGrow Wheat: Best Management Practices for Wheat Production. South Dakota State University, SDSU Extension, Brookings, SD

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